

ABSTRACT

Techniques for monitoring the quality (e.g., optical and mechanical properties) in optical waveguides (e.g., photonic crystal fibers) are disclosed. Additionally, techniques for detecting and localizing defects in the waveguides are also described. Pulses of light are launched into one end of an optical waveguide. The amount of light scattered out of the same end of the waveguide (i.e., a backscattered or reflected signal) is monitored at certain wavelengths specific to the spectral characteristics of the waveguide. Transmission characteristics and defect localization can be determined from the backscattered signal.

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